Personnel

1. Robert L. Pearson, Refuge Manager, GS-11, PFT - EOD 08/29/77
2. Laurence R. Veikley, Assistant Refuge Manager, GS-9, PFT - EOD 09/15/77
3. Elizabeth A. Benway, Administrative Clerk, GS-5, PFT - EOD 07/22/68
4. Vincent J. Marko, Maintenanceman, WG-8, PFT - EOD 04/30/62
5. Benjamin M. Lukes, Realty Specialist - Billings Area Office stationed at Benton Lake - EOD 08/08/71
6. James L. Kay, Bio Aid, GS-3, Temp. - 06/11 - 08/30/79
7. Dale O. Meland, Bio Aid, GS-3, Temp. - 06/11 - 09/13/79
8. David E. Potter, Bio Aid, GS-3, Temp. - 06/11 - 09/12/79

Review and Approvals

Robert L Pearson 3/6/80
Submitted by Date

Area Office Date

Benton Lake National Wildlife Refuge

Regional Office Date

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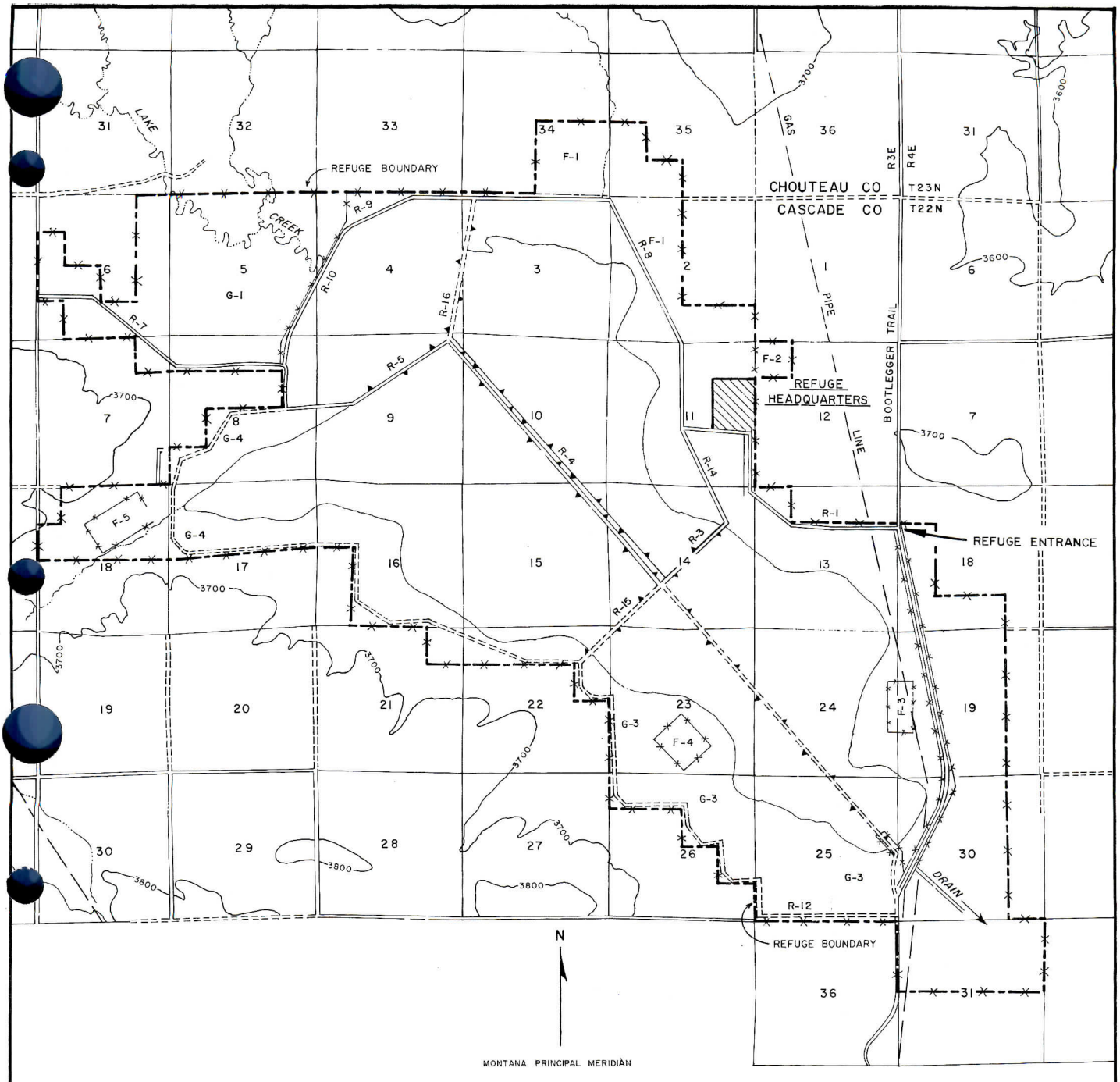

UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE

BENTON LAKE NATIONAL WILDLIFE REFUGE

CASCADE AND CHOUTEAU COUNTIES, MONTANA

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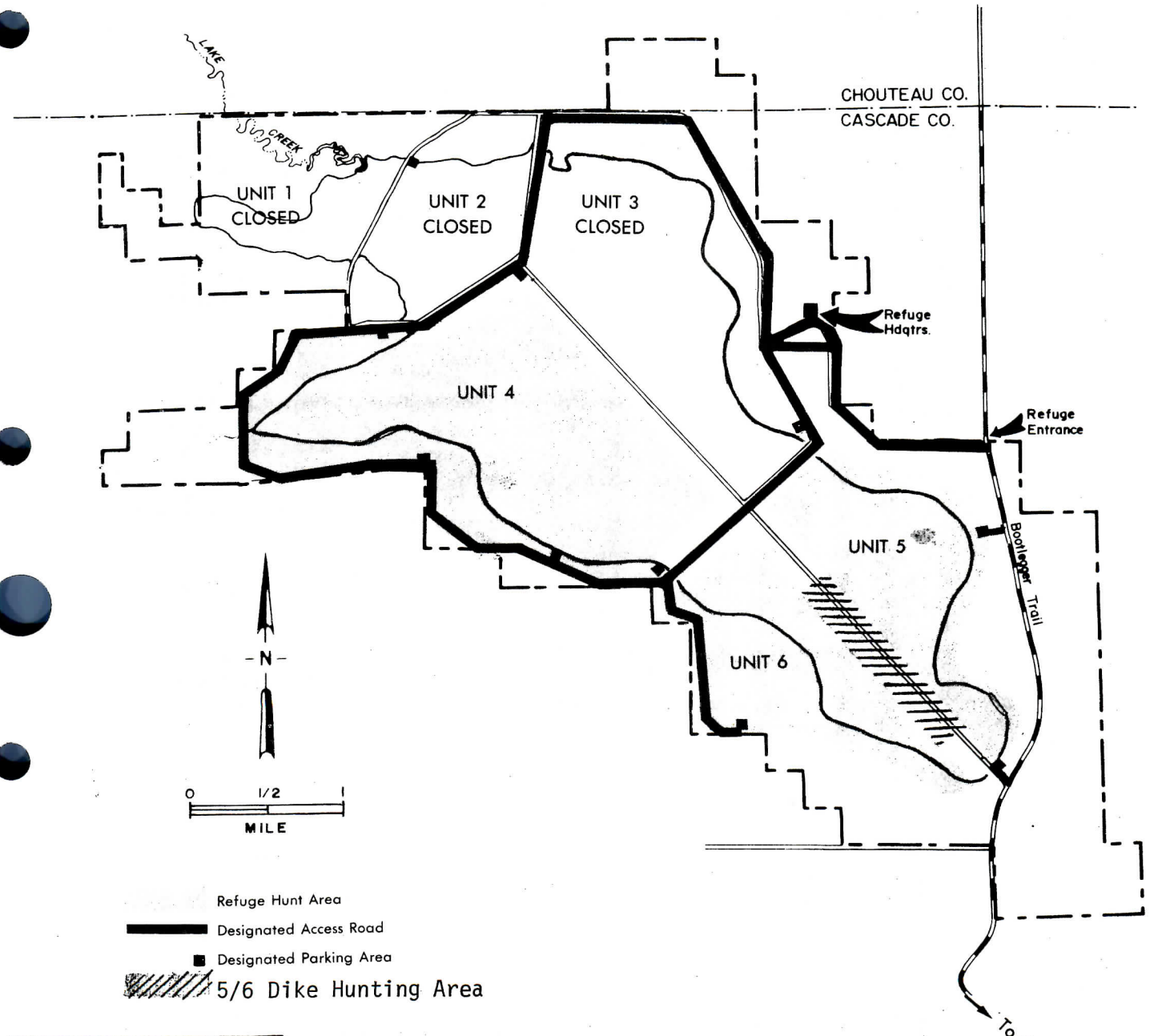
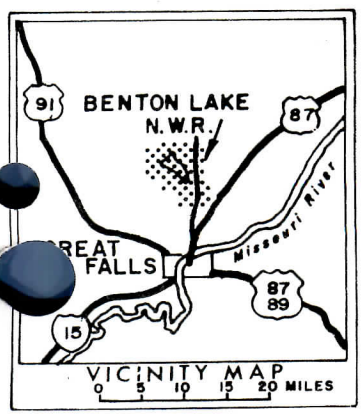
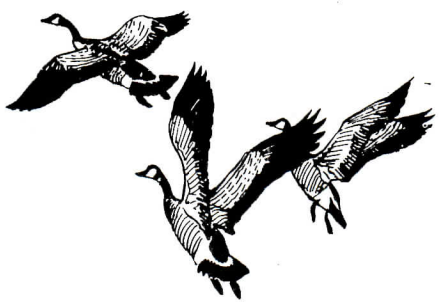
BENTON LAKE
NATIONAL WILDLIFE REFUGE
Chouteau and Cascade Counties, Montana

United States
Department of the Interior

Fish and Wildlife Service







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I. GENERAL

A. Introduction

Benton Lake National Wildlife Refuge was established on November 21, 1929, by presidential executive order. The refuge contains about 5480 acres of short grass prairie surrounding the old glacial lake bed. This generally dry lake basin was subdivided with dikes in 1960-61 and a pumping station and water delivery system was constructed. Irrigation return flows into Muddy Creek are pumped through a five and one-half mile 48 inch concrete pipe to the Lake Creek drainage where they then flow thirteen miles east down the modified channel to the refuge. The refuge headquarters is located about 12 miles north of Great Falls, Montana, via the Bootlegger Trail. Floods, record high water levels and botulism affected this year's program.

B. Climatic and Habitat Conditions

Winter

No school again today, but plenty of work.
An early morning view of the refuge road
from headquarters in January, 1979.
79-1-4 LV

The year of 1979 began with one of the most severe winters that many Montanans could recollect. Extremely cold temperatures were accompanied by considerable snowfall and a great deal of blowing and drifting. January was the fifth coldest January on record since 1892 when observations were first taken in Great Falls. We had 110 continuous days with one or more inches of snow on the ground, establishing a new record. The snow cover began on November 9, 1978, and ended on February 28. Many county roads were closed for up to three months as available snow removal equipment was used to maintain main roads only. Even the Bootlegger Trail, an asphalted state route, was closed several days. Refuge roads were closed six days in January and three days in February. Needless to say, rural travel was both difficult and hazardous.

Road is finally open once more - until the next wind. Bootlegger Trail at refuge entrance looking toward headquarters.
79-1-20 RLP

The solar eclipse of February 26 occurred at 9:26 AM but was locally obscured by heavy cloud cover. Television coverage from Helena, Montana, was excellent.

Resident wildlife had their second really tough winter in a row. Some surplus grain was fed to partridge and pheasant

near headquarters. DNC units and shelterbelts drifted full of snow. Cattail stands in Units I and II provided the best winter cover.

Spring

Warm chinook winds finally returned in early March and local snow pack went off very rapidly with most of it all going off on the 7th and 8th of March. Lake Creek flows peaked at about the same time, flooding low areas along its course. It was back within its channel in most areas by March 14. Runoff inflows from heavy drift areas continued until early April. At this time our water levels in the lower four units had reached 3620.03 feet elevation which was two feet above design capacity. Water had topped two of the dikes in low sections and any wind-wave action would overflow major sections of these dikes.

On March 6th ice measured 27 inches thick on the main distribution canal. Open water appeared in several of the units in early March. Cold weather in late March again closed these areas. All units were finally ice free about April 25. Winds in early April pushed ice over the top of the 4/6 and 3/5 dikes. Ice damage was not significant. Snowfall from January to June was 8.7 inches above average with 46.1 inches.

Summer

It was a mostly warm and dry summer. There have been only four drier Mays on record. June was unusual in that most of the rainfall came from thunderstorms. Preciptation from May through September was 4.81 inches below normal. Temperatures for June and August averaged out near normal. September was almost six degrees above normal with a temperature of 98 degrees recorded on the 8th, equalling the 1967 record high.

This drying weather was just what we needed to reduce water levels in Benton Lake. Waterfowl from temporary wetlands in the surrounding areas moved into Benton Lake where abundant food and water remained available. Shorebird habitat was quite restricted due to our high water levels. Reduced moisture during the growing season was reflected in upland grass production.

Fall

Prolonged warm weather this fall contributed to increased botulism losses. Precipitation was well below normal in all months except October. Snowfall was 6.3 inches, which was 13 inches below normal. The first frost occurred on October 3 and the first snow cover occurred on October 21 and was short lived.

Most of the waterfowl moved south with the cold fronts of November 7 and November 13 (70% iced over). Few birds remained to take advantage of the open water conditions thereafter. Complete freezeup occurred on December 10, 1979.

The year ended with rather mild weather conditions and a lack of any significant snow cover, a dramatic change from the cold and snowy November and December of 1977 and 1978. We did have one arctic outbreak on December 16th. The temperature dropped to 28 below zero shortly after midnight but then rose rapidly to 32 degrees above that evening.

TABLE I

WEATHER TABLE - 1979

	Great Falls				Refuge	
	Temperature (F)		Precipitation		Precip.	Evap.
	High	Low	Total	Depart	Total	Total
January	42	-20	.71	- .17	1.13	
February	48	-14	.57	- .18	.83	
March	65	- 1	1.00	+ .03	.92	
April	72	16	2.05	+ .87	1.46	1.10
May	86	29	.69	-1.68	.62	2.97
June	95	33	2.61	- .50	1.17	10.09
July	98	42	.27	-1.00	.95	8.65
August	100	47	.30	- .79	.15	9.41
September	98	36	.33	- .84	.48	2.40
October	86	21	.73	+ .05	.70	5.70
November	63	4	.29	- .50	.31	
December	62	-28	.26	- .45	.30	
1979	100	-28	9.81	-5.18	9.03	40.32*

*Evaporation pan was operated April 11 to October 22, 1979.

C. Land Acquisition

Nothing to report.

D. System Status

1. Objectives

Station objectives were revised and documented using the PPBE procedures in 1971. They have since undergone minor changes. We are anticipating a major revision/documentation effort in the near future. Table II shows the current outputs and

objective level for this station's primary objectives. Excess water adversely affected this year's outputs, especially our summer visitor use.

TABLE II

REFUGE OUTPUTS

Output	Current Level	Objective Level	Units
Waterfowl Production	11,520	20,000	Each
Waterfowl Maintenance	6,422,692	8,300,000	U.D.
Other Migratory Bird Maintenance	6,453,594	10,500,000	U.D.
Environmental Education	2,976	5,100	A.H.
Recreation-Wildlife Consumptive	5,775	18,000	A.H.
Recreation-Wildlife Non-Consumptive	2,910	14,000	A.H.

2. Funding

TABLE III

FUNDING AND MANPOWER SUMMARY

FY	1210[1]	1240[2]	3110[3]	Rehab	BLHP	Total	Manpower
80	130,000	4,000	5,000			139,000	4 PFT-3T
79	132,000	6,000	5,000		121,000[5]	264,000	4 PFT-3T
78[4]	115,000	6,000	5,500	12,000	19,600	158,100	4 PFT-2T
77	100,000	6,000	4,500			110,500	3 PFT-1PPT
76	79,000	6,000	5,000			90,000	3 PFT-1PPT

1 - includes 1200 and 1220
2 - includes 1500
3 - includes 3100 and 3200
4 - 1978 special funding included WPA fencing (rehab) and dike repair materials (BLHP)
5 - equipment project #10, habitat project #5 - WPA fencing

II. CONSTRUCTION AND MAINTENANCE

A. Construction

Refuge personnel constructed about .7 mile of boundary fence on the east side of the Muddy Creek Tract in mid November. We attempted to negotiate with Mr. Roy Heinen to cover his use of the government lands under a Special Use Permit, He turned down our offer of $50.00 per year. He was given until June 1, 1980, to remove all personal property from the tract. We feel this probably worked out for the best in the long run. This should end the uncontrolled trespass use of the tract lying east of the railroad tract (17.5 acres) where corrals, grazing and alfalfa production by the adjacent landowner has occurred for several years.

Muddy Creek corrals and livestock shelter - private development on refuge lands. Approx-mately 0.7 mile of boundary fence was built and the boundary posted in November. Hopefully ending this trespass use.
79-9-7 RLP

Equipment Procurement

The following items were acquired under BLHP Project No. 10:

1. Case 580C backhoe-loader
2. Ford 4600 utility farm tractor
3. Wisconsin trailer for equipment hauling
4. "Play-Mor" camp trailer for field work crews
5. 3/4 ton 4x4 Dodge pickup with winch
6. Radio communication system to cover the refuge and most of the wetland management district

New 10 ton tilt trailer, Wisconsin 700-10
79-7-16 LV

The following two items were acquired with funds saved by recruitment of a local fencing contractor near the construction site at Whitlash, Montana, (See Wetland Management District report):

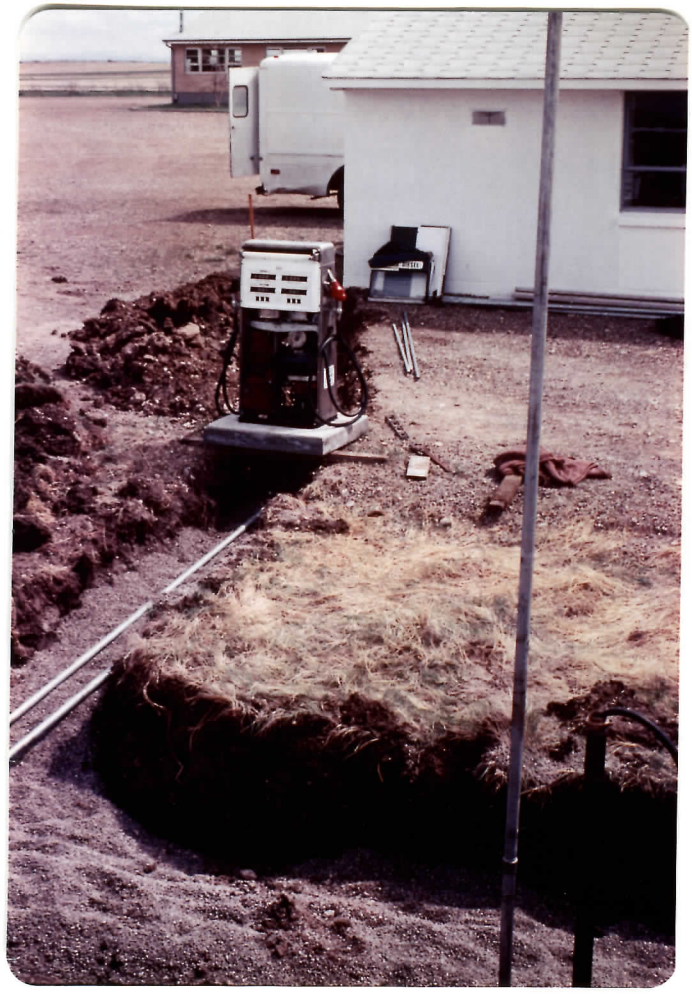
1. Combee airboat
2. 200 gallon fire fighting pumper trailer unit (FMC)

Station O&M funds were used to acquire the following items:

Combee airboat with a 350 cu. in. Chevrolet motor on a 14 foot fiberglass hull received 11/14/79
79-7-19 LV

New fire supression unit. Stainless steel 200 gallon tank
79-7-20 LV

1. 1979 Chevrolet Luv 4x4
2. Danhauser posthole auger
3. Savon III office copy machine (50%)
4. Schafer post driver
5. Fuel tanks and electric pump
6. FMC rotary cutter



Fuel pump and line to new 500 and 1000 gallon underground storage tanks. Note the gravel bedding used due to our heavy clay soils.
79-4-11 LV

Two YACC vehicles were picked up at the Glasgow YACC camp in June and retained under lease until they could be acquired with FY 80 funds. The 1978 Ford 4x4 was acquired but the 1979 one ton stake/dump was not retained as it was too small for our needs. It is to be picked up by J. Clark Salyer NWR.

1979 Chevrolet Luv 4x4
79-7-15 LV

B. Maintenance

The refuge maintenance program was "crippled this year. Vince Marko had major back surgery and equipment breakdowns thwarted several work projects.

1. Fencing

The entire refuge boundary fence (37 miles) was gone over and needed repairs undertaken. Many corner braces were rebuilt. Major repairs were undertaken on one mile of fence in the southeast corner.

2. Roads

The winter snow conditions were the worst on record. We borrowed a D-7 dozer from C. M. Russell NWR and also used

our D-6 dozer and Cat 12 road grader to fight the drifting snow. There were many days in January and February when

Breaking through with the D-7 borrowed from CMR Refuge. Even the county road was closed several days.
79-1-9 LV

little else got attention. We were looking at alternate routes such as the 5/6 dike and a route going straight east from headquarters to get to the county road. We also began questioning why headquarters wasn't located in Great Falls - at least the office. There were days when even the county road was not opened up.

Our closest neighbor was "dug out" with refuge equipment as the county equipment was only able to handle main routes and emergency work. The refuge clerk spent several worrysome hours in a snowdrift on the county road near the refuge entrance. We tightened up coordination procedures of winter travel at this point. Several days of school and work were missed but nobody was injured.

Spring runoff was quite rapid and overflowed roads causing damage in several locations. A drainage problem developed along the entrance road near headquarters and fences had to be cut and the dozer used to cut roadside snow banks to

release 18 inch deep water over the road bed. The

March 7, 1979, runoff washing across the refuge road west of Unit IV. Over 12,000 acre feet was received from the snow pack this spring.
79-2-12 LV

worst damage was on the road at the west end of Unit IV. In late September just prior to hunting season, 150 tons of gravel were purchased and hauled in to make temporary repairs of this site so it wouldn't constitute a serious public hazard.

The neighbor east of headquarters had the SCS survey in a "grassed waterway" which will discharge into the refuge at the location previously mentioned (18 inches of water). We installed an additional 24 inch CMP in the entrance road to offset the problem. We are looking forward to a silty discharge into our grassland.

Snow was graded from dike roads and spillways. Culverts were cleaned and recleaned to facilitate runoff flows in preparation for public use. New record high water conditions left water standing in spillways and dike roads unsafe for public driving. Public use was restricted to upland roads until late summer.

We observed county weed control spray crews operating along the Bootlegger Trail where it crosses the east side of the refuge. We tried to discourage their nondescriminate use of herbicides and offered to handle noxious weed problems along the right-of-way through the refuge ourselves. I could only find one small patch of Canadian thistle along this right-of-way. Their crews are predominantly college students and appear to spray any broadleafed plant along the roadside.

We terminated private hay harvesting along this same right-of-way this year. It was determined what constituted the State Highway Department's maintenance mowing of road shoulders and the neighbor was notified that mowing beyond that zone was prohibited.

Considerable road grading and parking area mowing was necessary just prior to the hunting season.

3. Dikes and Structures

This year's high water levels caused considerable damage from wind-wave erosion to the northwest face of the 4/6 dike

Unit IV dike and structure showing loss of materials washed out by wind-wave action. High water reached to within 5 inches of the top of the concrete structure. Note spikerush in the background.
79-3-14 RLP

and to the fill around the Unit IV control structure. The worst cuts were filled using 455 tons of pit run gravel and then oversized rock, 335 tons, were used to repair the surface rip rap. Although $5000 was spent for these materials (FOB site), we were expecting dike damage to be much more extensive considering that water levels were two feet above design capacity by May 10.

Unit IV face of the 4/6 dike after repairs. Road surface gravel was windrowed to the opposite side to prevent loss during rip rap placement.
79-3-17 RLP

The Unit I (south) spillway, which was enlarged last year, proved itself well worthwhile this spring. Additional gravelling was undertaken to finish this road crossing and to gravel the adjacent hunter parking lot. Hunters previously had to park in the spillway and on the spoil pile.

A contractor was hired to place large rock rip rap around structures at the Muddy Creek pumpsite damaged by 1978 and 1979 floods. The large culverts under the access road, both ends of the dam wing walls on the south side of Muddy Creek and the downstream side of the pumphouse were treated. More material is needed at the pumpsite dam.

Aerial inspection of Lake Creek structures during and after high runoff showed further structural damage again this spring. In mid summer all culvert structures were examined

for soundness. Materials were obtained for the complete replacement of the flood damaged unit. Not only had the two end sections been "floated" out but they showed advance signs of deterioration from corrosive alkali. Discussions with the landowner and other users of this farm crossing determined that it was no longer being used for a farm equipment crossing but only for occasional ranch motor vehicle traffic and a cattle crossing. The deteriorated end sections were salvaged by the landowner in exchange for dirt work and canal cleaning to repair the remaining four section structure.

This fall the accumulated silt and muck in front of Unit I and II outlet structures were cleaned out and water guages were repaired.

4. Weed Control

A landowner along Lake Creek expressed some concern about noxious weeds along the creek and wondered if the landowners should organize to get some results. He was concerned about Canada thistle (Cirsium arvense), whitetop (Lepidium draba L.), and the possibility of leafy spurge (Euphorbia esula L.) being introduced by our water supply from Muddy Creek. I arranged an inspection of Lake Creek with the Teton County Weed Control officer, Jay Cole. We found and documented a few scattered patches of Canada thistle and two small patches of whitetop. The source of the whitetop was on a private stock pond dam - thought to be that of the complaintant. No leafy spurge was found, and no further complaints were voiced. Most of the noxious weeds observed were on adjacent private lands. We plan to conduct some site specific control measures next year along our 100 foot right-of-way.

Cattail in Unit II have become quite extensive and very dense. The unit was drained this fall to help counteract botulism problems. The cattail was then control burned in an effort to reduce density of the stand.

5. Goose Nesting Structures

The high water conditions the last two years have really played havoc with dirt push-up islands and round straw bales used for goose nesting structures. In order to augment the few remaining nesting sites, four of the floating hunter blinds were outfitted with a nesting platform and straw bales (donated by a local farmer) and placed in the upper units this spring.

Dirt push up island in Unit II with straw bales on top. Note protective cattail cover left on windward side. The extensive cattail stands were partially burned in November.
79-9-2 LV

With Units I and II dry this fall, we took the opportunity to rebuild two islands in Unit I and 8 in Unit II. Straw bales were placed on top to encourage use by our local breeding population of Canada geese. Straw donated by Mr. Richard Golie. The islands were seeded with tall wheatgrass and sweet clover and were fertilized.

6. Buildings and Grounds

The office furnace system continued giving us problems. The circulation system was undependable, and numerous leaks of the antifreeze at valves and connections led to air blocks and potential freezeup damage to water system and rest rooms. Various commercial repair proposals were obtained which suggested complete replacement as a viable alternative. Due to limited funds, a decision was made to convert the system to a direct tie-in to the water supply. Antifreeze was drained and flushed out, the supply tank and compressor removed. Fittings were tightened where possible without major disassembly. The direct water system appears to be functioning well and leaks are no longer a problem. Time

will tell. The office copy machine and hot water heater were replaced. Exterior trim was painted by a painting contractor.

Residences (81 and 82) received an exterior paint job. Rental rates were equalized following the removal of a government extension phone. After hour inquiries have been very minimal during the last two years and didn't justify the cost. Realty conducted a rental rate survey. Kitchen ranges required repairs to burners and controls. The kitchen faucet and a door closure were replaced in Quarters 81, while a folding closet door was replaced and one bedroom painted in Quarters 82.

The fan bearings were replaced in the shop furnace. Water on the shop floor continues to be a safety problem. This storage building makes a poor substitute for a shop in this cold climate.

Overhead storage tanks were replaced by underground fuel supply tanks and pump system just north of the oil house. We added one 500 gallon tank for unleaded gasoline and a 1000 gallon tank for diesel fuel. The 4000 gallon water cistern developed a leak this summer but has apparently resealed for the time being. Clean up and disposal of surplus junk in the wareyard was initiated but much remains to be done. Water supplies were hauled in weekly and garbage hauled out as necessary.

7. Equipment

This was the "year of the equipment". Our old gear required much work to keep it going and caused work shutdowns and delays. New equipment under a BLHP project also required much work to get it on board and functional.

The Old: The major repair items were as follows:

1. $4500 commercial repair of Cat-12 road grader transmission and tandem drive train - it was in the shop for two months.

2. D-7 borrowed from CMR - to maintain good "credit" we returned their machine in better condition. Repaired: track pad, canvas shroud, No. 3 injector block gasket to correct oil leak, repaired track tension adjustment bracket, adjusted clutch, replaced transmission grease and steam cleaned the engine before returning it this spring.

3. Our two D-6 units required a track roller, exhaust stack, tank heater, starting motor clutch and steering brake shoes.

4. The most frustrating problem was the cracked head on our old Minneapolis Moline fencing tractor. It broke the first day on the job at Whitlash, Montana, some 120 miles from home base. The head was removed and taken to a machine shop in Great Falls. The machine shop tried several times, but hasn't been able to get the head repaired. We finally were able to rent a tractor from a rancher at Whitlash to complete the fence project. At the close of the year we were able to locate the last MM head left in stock and ordered it.

5. IHC 460 - We're sure happy to be getting rid of this lemon. It has never worked properly since its purchase in 1962. A new injector pump and glow plugs were installed to no avail. The hydraulic system malfunctioned and was not repaired.

6. Aircat Airboat - The main crank shaft oil seal blew out twice and the electric fuel pump was replaced. Structural deterioration was noted this spring. A commercial shop completely rebuilt the motor mount frame, modified the cowling mounts, and built new safety shield. The floatation tanks were discarded and replaced by filling the front and side walls with liquid styrofoam behind fiberglass. This really improved the work space area and the ease of cleaning out "botulism bilge". Maintenanceman Vince Marko made fiberglass repairs to the bottom of the boat and did some finish work that the commercial shop had left undone. With the acquisition of the Combee airboat, this unit is being transferred to C. M. Russell NWR for further duty on the Broadview and Big Lake botulism hot spots.

7. The 1967 Dodge 4x4 required repairs to the radiator, front wheel spindle, and tie rod.

8. The 1971 Chev 4x4 required complete rebuilding of the brake system and the rear end went out during nest dragging operations. These vehicles are now on excess property.

The New

The 580C Case was received late and in a thrown together

fashion - missing parts, manuals, no service and instructions on delivery and numerous hydraulic leaks.

New 80 hp backhoe-loader unit to replace IHC 460
79-7-17 LV

The dealer assembly of this unit was very poor. We finally got initial delivery servicing and corrective work done. The big problem with this acquisition is that on-going dealer service will be almost impossible to get from Fort Collins, Colorado. I feel that procurement procedures should be adjusted to where the major manufacturer does the bidding and then delivery and service is assigned through the closest dealer to the point of destination.

The Ford 4600 was delivered by the local Ford dealer and it was in good shape and their service was "with a smile" and available within hours instead of sometime next month. A small hydraulic leak and the remounting of the rear cab window was promptly handled by the dealer. A new Danhauser post auger with down pressure kit and a new Shaver post driver were purchased and mounted (shop modified) on this tractor. Quick

connections were plumbed in and a mounting bar for unrolling fence wire was built.

Fencing crew leaving refuge headquarters with our new "field quarters" - a 32 foot self-contained camper. The 1978 Ford 3/4 ton 4x4 was obtained from the deactivated YACC program at Glasgow, Montana.
79-2-12 LV

The Play-Mor camp trailer was equipped and put to use by our fencing crew. The axle mounts were lowered for stability and wind profile. All systems were inspected and minor repairs or modifications undertaken. Three of our new 4x4 pickups were equipped with equalizer hitches and electric brake systems to allow flexibility of the towing vehicle used. The 1978 Ford, obtained from YACC, developed a vapor lock problem when pulling the trailer. We increased the transmission cooling system capacity and put on a heavier duty fuel pump.

All four of our new vehicles were supplied with locking tool boxes, spare tire and chains, tow hooks, tow rope and larger rear view mirrors. Fish and Wildlife emblems have not been received.

III. HABITAT MANAGEMENT

A. Cropland

The refuge conducted no cropland manipulation this year. There are currently 619 acres of DNC in seven field units. The entire 619 acres were dragged for nests this June, and a total of 874 ducks were flushed (1.4 nests per acre). Comparably, 317 acres of native grass were dragged to flush 44 ducks or .14 nests per acre. Alternatives for further DNC develpment are two - either break out native sod in desirable locations or use existing dried out water units. The latter is a possibility only if total water management capability is realized through the development of a drain out of the Benton Lake sump. DNC is too expensive to establish to risk total inundation by spring floods.

DNC Unit 3, which was replanted last year, developed mostly to sweet clover and weeds this year. An extremely dry growing season showed its effect on all DNC units this summer. No Robel readings were taken.

TABLE IV

COMPARATIVE NESTING USE OF GRASSLANDS (JUNE)

	DNC Nest Drags				Native Grass Nest Drags			
	1976	1977	1978	1979	1976	1977	1978	1979
Acres Dragged	151	331	310	619	287	643	153	317
Ducks Flushed	115	140	358	874	21	132	15	44
Average Nests per Acre	.76	.42	1.15	1.40	.07	.20	.10	.14

B. Grassland

In contrast to last year's excellent grass year, this year's dry growing season had a retardatory effect on the native range. Field data on native grassland evaluation is summarized in the "Grassland Management Report" submitted by this station.

The Muddy Creek tract has not been grazed for two years in a row now. SCS recommends giving it another year of rest, but with luck, grazing may be terminated on this tract if the permittee retires.

C. Wetlands

Benton Lake started the year at 83% of impoundment design capacity and with excellent prospects for another heavy snowpack runoff. Table V depicts unit water conditions at various times throughout 1979. Numbers in parenthesis indicate percent of design in terms of surface acres and acre feet.

TABLE V

SURFACE ACRES FLOODED - 1979

Unit	Unit Design Capacity Surface	Volume	11/78	05/01	07/01	09/01	11/01
I	424	1285	130	434	340	200	T
II	535	942	350	535	336	100	T
III	1194	2875	1179	1214	1206	1200	1184
IV	1982	4946	1955	2132	2127	2100	1964
V	877	2084	870	920	916	900	875
VI	810	1957	803	880	870	835	805
Total	5822	14090	5287 (91)	6115 (105)	5795 (99)	5335 (92)	4828 (83)
Volume (AF)			11698 (83)	24279 (172)	20075 (142)	15105 (107)	11378 (81)

Snowpack runoff was rapid beginning March 6th and ending in early April. An estimated 12,100 acre feet were received. Peak water levels occurred between April 10 and 20. No significant runoff was received from rainstorms on the Lake Creek watershed this year.

By the end of the year lake levels had dropped back within structure design principally through evaporation of some 12,416 acre feet of water. Natural drainage out of Benton Lake would occur at 3630 elevation. A drain system is again being advocated. Table VI compares past flood history and lake elevations.

TABLE VI

FLOOD LEVELS IN BENTON LAKE

Year	Runoff Volume	Max. Lake Elevation
1964	7,125 acre feet	3617.0
1965	2,560 " "	3616.2
1966	2,530 " "	3616.5
1969	9,600 " "	3619.2
1970	3,000 " "	3618.2
1975	13,933 " "	3618.8
1978	19,200 " "	3619.3
1979	12,096 " "	3620.0
Max. Design	14,089 acre feet	3618.0 feet

1. Water Management

Lake Creek waters flow through Units I and II before reaching the canal which provides independent distribution to the four lower units.

Aerial view of Unit I during late summer. Note good cattail interspersion as compared to the dense stands in Unit II, foreground below the dike.
79-8-18 RLP

Unit I: The enlargement of the south spillway last fall provided sufficient flood flow bypass this spring to prevent damage to the dike and reduce the extent of flooding onto adjacent private property. Water level was above structure setting for only 18 days in March. Levels gradually declined through the summer. The unit was drained in early August to clean out and repair the outlet structure. Mid summer inspection of the June 1, 1978, oil spill site revealed little remaining evidence of the event. Excellent production of aquatics and wildlife was noted. Visual scars on the adjacent upland from vehicle traffic were considerably reduced. Cattail stands remained in good condition and distribution in this unit appeared unchanged.

Unit II: Water levels in this unit reflected the same pattern as in Unit I. Runoff water was passed on through to the lower units; scouring of aquatic beds in Units I and II were noticeably less than in 1978. A minor outbreak of botulism caused us to drain this unit in early September. Predominent wildlife use was by American coot and eared grebe. Shorebird use increased considerably on both Units I and II with lowering water levels this summer. Complete drainage was prevented by silt and muck buildup in the drain canals in front of the outlet structures.

Units III, IV, V, VI: Monitored water levels, ice conditions and conductivity. No intra-unit pumping was undertaken. Water levels raised to within 4.5 inches of the top of the concrete structures and overflowed Unit III dike and the IV/VI dike at two low points. Drainage of excess water was not possible. Thank God for a dry May and June. Damages were considerably less than anticipated.

Muddy Creek Pump System: The system was operated August 8 - 10 and each of the three pumps was operated for several hours to verify operational condition. The system hadn't been used since July 31, 1977. The water pumped went to fulfill previous commitments for stock water on the Burgamier ranch along Lake Creek.

2. Vegetative Response

Algae: Green filamentous algae were present in all units but developed strong blooms forming into thick mats, especially in Units I, II and IV. By mid July 30 to 40% of open water surfaces in Units I and II were covered, with somewhat less coverage in IV.

Another distinctive algae thought to be one of the bluegreen forms was found growing profusely in the central part of the

lake. It was present in much lesser volumes last year. It could be described as finely cut grass clippings, uniformly distributed in the water and flowing through structures with wind tides. By July 10 it began to accumulate along dikes in windrows and one to two inch floating wind-formed blankets along dike faces. Decomposition marked the olive drab surface with marbled patterns of bright copper blue color.

Submerged Vegetation: Field observations indicate a strong shift in dominance by water milfoil over the pondweeds. This was particularly noticeable in Units III and IV. This change didn't appear to deter waterfowl use. The structure provides excellent invertebrate substance and is thought to more than compensate for its less direct food value. A review of past aquatic surveys at Benton Lake indicates this same trend - early development of some five species of pondweed, primarily sego pondweed (P. pectinatus) and small pondweed (P. pusillus) following initial flooding or reflooding after a dry cycle, then a shift to water milfoil (Myriophyllum exalbescens) and water-weed (Elodea canedensis) with Sago pondweed dropping to third place.

Emergent Vegetation: Cattail (Typha latifolia) expanded again this year in Unit II and to some extent along shoreline areas in Unit IV. Stands in Unit I remained relatively stable with good water interspersion. Stand density and distribution was thought to be excessive in Unit II and we burned off this unit in November in an attempt to increase open water areas and reduce stand density. Slightly dryer conditions probably would have given better results.

At Benton Lake, cattail appears to be more restricted in distribution each year by water salinity. Early 1960 reports indicate the presence of cattail in all units and in 1966 some 500 acres were mowed to reduce its "encroachment" in Unit IV. This year Unit III had only one significant stand of cattail. Past reports indicate fairly extensive stands of cattail in this unit.

Spikerush (Eleocharis macrostachya) expanded in shallow water areas of Unit III but lost ground, due to high water levels, especially in Unit VI where stand density was reduced by about half. This species appears to be the most responsive to water level management. It provides the bulk of our brood cover and is the only emergent cover found in Unit VI.

Hardstem bulrush (Scirpus acutus) is found in all units, usually in small clumps in open water areas. It is occasionally found

in close association with cattail in shoreline or shallow water areas. It has expanded (become re-established) the last two years in Unit III. Nowhere is it abundant in Benton Lake marshes. It appears to be very slow in responding to water level manipulation and doesn't compete well with cattail. Assistant Manager Larry Veikley found softstem bulrush (Scirpus validus) growing with the former species along the north shoreline of Unit II. We found no prior record of this species here.

Alkali bulrush (Scirpus paludosus) is well established along the south side of Unit IV in saline seep drain areas where conductivity readings are 7000 to 8500 micromhos/CM. This species hasn't responded well to past seeding efforts here due in part to the relative freshness of the water (1500 - 2500 micromhos) and lack of water level control. With declining water levels, it would make some progress around unit margins but would be immediately decimated by increasing water levels.

This year Units I, II and VI had good brood cover although composition and interspersion wasn't ideal. The upper half of Unit IV was pretty good but the lower half was almost 100% open water. Unit III was mostly open water with bulrush (22 clumps) and some spikerush expansion from last year. Unit V had the least emergent cover - four or five small clumps of hardstem bulrush.

D. Forest Lands

Nothing to report.

E. Other Habitat

Nothing to report.

F. Special Areas

Nothing to report.

G. Easements for Waterfowl Management

See Wetland Management District report.

IV. WILDLIFE

Information for all wildlife categories was determined from minimal census data. Wildlife observations were taken incidental to other activities. Aerial breeding pair counts were taken twice in May on all units. Early pintail broods were counted using an airboat along the shorelines. This information was used primarily as an indication of early nester success and average brood size for pintails. Two aerial waterfowl censuses were taken, one during May and one just prior to the opening of waterfowl season.

Nest searches were conducted on about 935 acres using a cable chain device. Canada goose nest searches were made on all impoundments with the aid of an airboat.

A. Endangered Species

The bald eagle was the only endangered species reported on the refuge this year. Spring observations were scanty, but fall use by the birds was excellent. A peak of 8 immature birds was recorded in late October, and they remained in the vicinity until mid November.

B. Migratory Birds

1. Waterfowl

Spring migration officially began on March 7th when several Canada geese were observed. Whistling swan began arriving within two days along with pintails and goldeneyes. Various other species began arriving shortly thereafter, and by the end of March over 42,000 waterfowl were present. Snow geese began moving through during the first week of April. One pair of Ross' geese was also observed.

On April 2 the Area Office directed us to investigate a sudden die-off of snow geese near Augusta, Montana, which had been reported by State Fish and Game personnel from Freezeout Lake. Veikley picked up some frozen specimens at Freezeout Lake and inspected the site of the die-off. There were from 30 to 50 dead snow geese around a small reservoir. Nearby was a rural powerline. The carcasses were picked up and specimens sent to the National Wildlife Health Laboratory in Madison, Wisconsin. One goose showed symptoms peculiar to avian cholera, but all the others were apparently killed by hitting the powerline. One of the dead geese had been banded at Tule Lake, California, in 1977. A full report on the incident is on file at the refuge.

Breeding pair counts were down 10% from last year and 39% from the past ten year average. Nest success appeared to be better this year, particularly for the early nesters, and production was figured at 11,520 birds (Table VII). A full report on 1979 duck production is in the refuge files under "Waterfowl Production".

Computer printouts will show waterfowl use lower than the last three years but the information is based on such scanty census data that it means little. There were apparently fewer birds present during fall migration, probably because of the nice weather.

An unusual sighting of a black scoter was made on November 2 by Betty Benway and Larry Veikley. The bird was seen only once in Pool V.

Botulsim reared its ugly head again this summer, but losses only slightly exceeded those of last year. Pick up operations

Bio aid Jim Kay contemplates alternative roles of the living and dead masses before him. Our new 1979 Dodge recieved in January.
79-5-20 LV

began on July 19th and continued through September 24th.

TABLE VII

HISTORY OF BREEDING PAIR COUNTS

Benton Lake National Wildlife Refuge

Species	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
Mallard	607	483	745	406			75	26	208	181	113	130
Gadwall	708	628	992	809			980	332	979	968	222	665
Wigeon	404	182	229	44			75	28	187	100	44	60
Pintail	769	491	857	241			270	287	612	287	249	335
G-W Teal	126	72	80	13			33	20	53	103	36	35
B-W Teal	2242	1084	1468	752			322	278	580	885	178	180
Cin. Teal	452	294	726	186							119	60
Shoveler	1326	879	1327	508			360	260	488	533	245	310
Redhead	272	185	103	64			114	113	443	233	354	100
Canvasback	67	87	52	8			24	70	47	43	380	55
Scaup	297	309	431	556			275	295	362	231	537	335
Ruddy	183	107	110	77			190	119	107	124	108	60
Totals	7,453	4801	7120	3664	4955	2790	2718	1828	4066	3688	2585	2325
Production		17,145	39,253	22,000	13,600	10,780	9890	3990	21,750	10,556	7930	11,520
Available Water Sur. Acres-May		5339	5442	4059	2611	2534	2228	4623	4545	2741	6011	5982

Breeding Pairs - 1969 - 1978 Average - 3822

Botulism - - - - - and a green-winged teal

Going - - - - - -

79-5-8 LV

Going - - - - - -

79-5-7 LV

Gone. .

79-5-6 LV

Maggoted carcasses may pose a gourmet temptation to other water birds - but are at the same time quite deadly.

79-5-4 LV

The following is a breakdown on birds picked up:

760 ducks	48 shorebirds
107 coots	16 grebes
15 gulls	1 warbler
1 marsh hawk	

Botulism was not confirmed by laboratory analysis and may not have been the cause of death in some of the gulls, the warbler and the marsh hawk.

Table VIII shows the history of botulism losses at Benton Lake since active management began.

TABLE VIII

BOTULISM LOSSES AT BENTON LAKE

	Pool 1	Pool 2	Pool 3	Pool 4	Pool 5	Pool 6	Total
1970	603	1,365	5,197	9,098	3,405	1,841	21,419
1971		927	6,295	2,212	2,627		12,061
1972	34	45	402		2,964	6,760	10,205
1973			1,665		95		1,760
1974			986				986
1978*	65	2	24	719			810
1979	11	25	13	1,017	19	63	1,148
Total	713	2,364	14,492	13,046	9,110	8,664	48,389

*No botulism losses were recorded in either 1975 or 1976. A scattering of badly decomposed duck carcasses were noticed in the fall of 1977 - cause of death was suspected to be botulism.

This station again helped out on botulsim cleanup at Broadview Marsh and Big Lake near Billings. A total of 18 man days were consumed on this project this year. A cost breakdown of expenses to Benton Lake in combatting botulism at Broadview is given on the following page:

Energy conversion and nutrient recycling are not always a pretty picture to behold. When a carcass had decomposed to this stage - look around - there are probably several to a dozen fresher specimens nearby.
79-5-5

LV

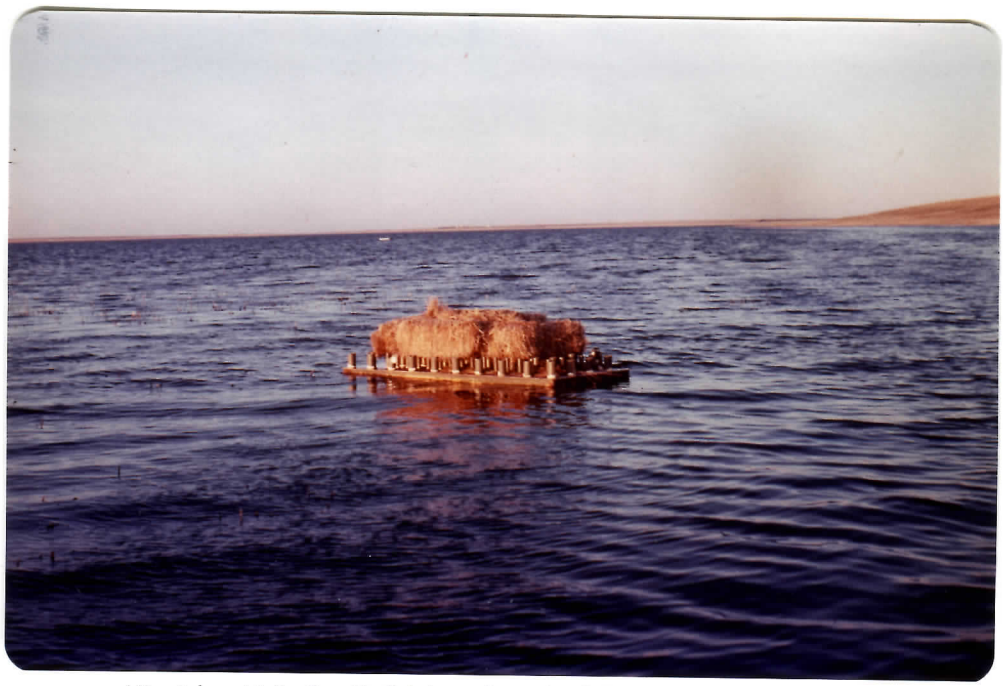
Botulism - several have studied it for years. We can describe it, but we can't prevent it - so we'll be cleaning up after if for years to come.
79-5-9

LV

Salaries - permanent	$1,536.50
Salaries - temporary	224.88
Per diem	613.08
Gasoline - airboat	115.50
Gasoline - vehicles	176.90
Total	$2,666.86

Our Aircat airboat at Big Lake with another load. The sidewall and under fore deck floatation, which was installed this year, helped considerably with cargo and work space.
79-5-14 LV

Canada geese did well at Benton Lake this year. In early April four of the floating hunter blinds were placed in likely nesting locations and decorated with several bales of straw each. Even though they were placed late, one was used to hatch five goslings from a clutch of six. High water was rapidly eroding nesting islands, and the blinds were placed in an effort to provide renesting sites. Eleven nests were located this year with a total of 54 eggs. One nest is known to have been abandoned.



What's this? Holiday Inn bridal suite for Canada geese! One pair thought so. Quick conversion of a floating hunter blind.
79-4-17 LV

Snow fence was used to protect one island which harbored a goose nest, but which was rapidly disintegrating. Evidence was not found which would indicate the fate of the nest, but the island went under. The nest was located in last year's cormorant nest. The presence of 52 young geese in broods of 4, 5 and 6 indicated that maybe this nest made it after all. Production was estimated at 60, the highest ever here. See Illustration A. Good quality islands are needed badly and will greatly enhance goose production.

Migration has never resulted in large concentrations of Canada geese here. Several hundred at one time is about par. As many as 2000 frequent the state owned Freezeout Lake area each fall.

Use of snow geese increased slightly this year. There were no extreme concentrations, but several flocks stayed for quite some time due to the nice weather.

Whistling swan again decorated the marsh during spring and fall migration. Total use was up from last year, again due to those that lingered all fall.

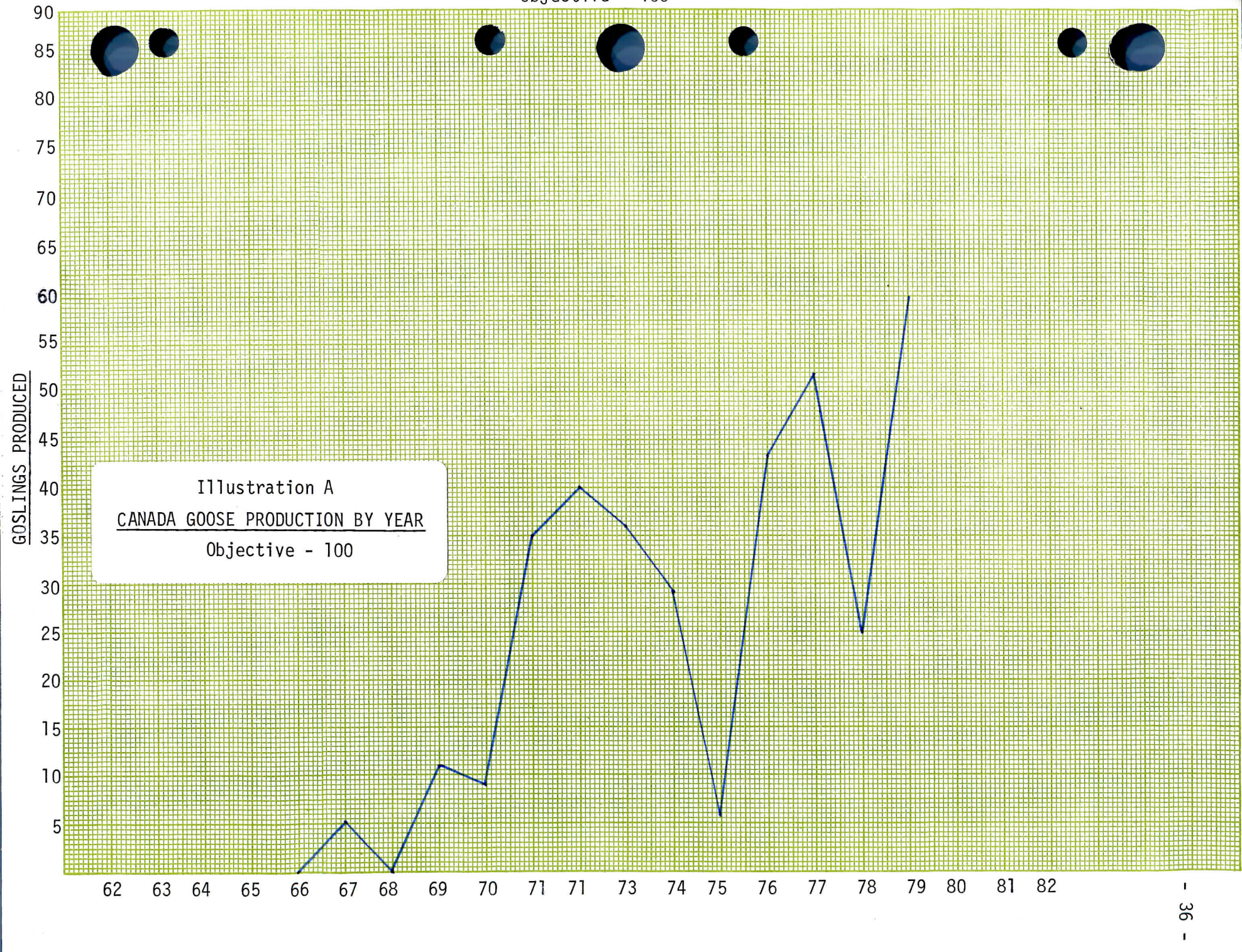


Illustration A

CANADA GOOSE PRODUCTION BY YEAR

Objective - 100

2. Marsh and Water Birds

Use in this category was recorded higher than ever before. The huge nesting colonies of eared grebe account for the increase which was over twice the objective level for this category. Many acres of spike rush were used by nesting grebes. A peak population of about 30,000 occurred and an estimated 10,000 were produced.

Over fifteen black crowned night heron nests were found in the flooded cattails of Pool 2. Success was not monitored but production was estimated at 30 birds. This is the first confirmed nesting of this species. Black crowned herons were first observed at Benton Lake in 1967.

Double-crested cormorants were found nesting in Pool 4 on the north remnant of the sub unit dike. On July 11th the site was visited and nine nests were found with six young and eleven more eggs. This is the second year in a row that cormorants have been observed nesting here. It is not known whether they were obtaining delicacies elsewhere and "shipping" them in. Salamander, a few frogs, and some small fishes are available here, but not abundantly so.

A half dozen white faced ibis were present all summer in Pools 3 and 4. They provided interesting antics for refuge visitors to observe, but no nesting activity was noted. These birds were observed on the refuge for the first time in 1967.

Sandhill cranes made a brief visit this fall sending six representatives on October 10th and nine on the 16th. Sightings of these birds are unusual here. A pair of horned grebes also stopped here during spring migration.

3. Shorebirds, Gulls and Terns

In general, shorebird numbers were down, terns were present in usual numbers, but gull use was noticeably higher this year. Several long billed curlews frequented the Benton Lake drain area, and it is believed there may have been a nest. Black-necked stilts were seen only rarely in the spring and fall. None were observed over summer. Other shorebirds which are known to have reproduced this year are: marbled godwit, willet, American avocet, Wilson's phalarope, upland sandpiper and killdeer.

Franklin gulls piled into the refuge cattail beds and nested in uncountable numbers. An estimated 20,000 gulls were

produced. California gulls expanded last year's nesting area and produced an estimated 300 young. A total of 324 nests was recorded at one time, but mortality was high. There is some concern that these birds could pose problems for other ground nesting birds on the refuge if allowed to expand. A control plan will be developed to restrict their nesting activities to a lower level.

Nests and young of common terns were observed on several islands left in Pool 4. These birds apparently like the wave eroded banks on the islands as nest sites, building a stringy, vegetative shelf-like mass for a nest.

4. Raptorial Birds

Raptor use was up somewhat this year due to good numbers of marsh hawks and short-eared owls staying here. One pair of burrowing owls stayed in the vicinity of the lake drain all summer. Nesting was not confirmed, but is probable. Both marsh hawk and short-eared owl nests were found during the DNC nest drags this summer. One short-eared owl nest was found in DNC 4 which had apparently been destroyed by an aerial predator.

Snowy owls were present until March 2nd and reappeared on December 7th. The fresh snow showed signs of a struggle involving one of these owls and a ring-necked pheasant. The owl survived.

Prairie falcon were seen off and on all year and a prairie merlin was seen on November 30th.

5. Other Migratory Birds

Interesting sightings this year included the following:

03/14/79	Varied thrush	Pool 3/5 dike	- Pearson
05/20/79	Male bobolink	Shoreline - Pool 4 & 5	- Veikley
06/27/79	White-winged dove*	Pool 2 dike	- Halloday/Nelson
08/29/79	Yellow Warbler	Q-82 garden	- Veikley
09/06/79	Wilson's warbler (dead)	Pool 4	- Pearson/Potter

*I have grave doubts on this observation - suspect rock dove was seen - RLP

C. Mammals, Non-Migratory Birds and Others

1. Game Mammals

Several sightings of mule deer were recorded during the year,

and two white-tail deer were observed in DNC-4. The pronghorns made an appearance this spring when 17 were seen just south of the refuge. Several small herds are known to frequent the area west of the refuge.

2. Other Mammals

No problem concentration of white-tail jackrabbits developed this year although rabbit populations are still high in the area. This fall there was no bad weather and heavy snow which has tended to concentrate them here in the past. The first Richardson's ground squirrel wasn't seen until late February this year, testifying to the worst winter in many years. Muskrat and skunk were beginning to show signs of activity a week or so prior. The fresh remains of a least weasel (Mustela rixosa) were found during the Pool 2 cattail burn this fall. These critters were suspected of being here but had never actually been observed on the refuge.

Red fox were observed just north of the refuge but no sightings were made here. Coyotes were plentiful all year.

A muskrat house count was taken in November and tallied 168 houses and 117 food caches. This is the highest house count recorded here since 1970 when 433 houses were tallied.

3. Resident Birds

Hungarian partridge were showing signs of winter stress in January. Surplus wheat from the refuge bin was scattered for the birds, and seemed to help bring them through the toughest times. Deep snow made most stubble fields inaccessible to upland game and mortality was high.

Ring-necked pheasant numbers declined noticeably around headquarters by spring and remain low to date. Some hens were flushed from DNC this summer and one brood was observed. Only a single sharptail grouse was seen this spring in DNC-5.

4. Other Animal Life

Nothing to report.

V. INTERPRETATION AND RECREATION

A. Information and Interpretation

1. On Refuge

Deep water standing on spillways as a result of high water levels curtailed auto travel again this year. Some road damage from spring runoff was repaired to allow a public access route around Pool II. The refuge received 1466 Environmental Education visits in May and September from the Great Falls school system. Several impromptu auto tours were also conducted.

2. Off Refuge

The refuge participated in the State Fair this year by setting up the Region 6 travelling display on wetlands and providing leaflets on various FWS programs. Unfortunately, the unmanned exhibit was located poorly and received little attention.

B. Recreation

1. Wildlife Oriented

Waterfowl hunting use was down this year with 1650 hunters bagging 3370 ducks and 10 geese. The season went poorly with too much bluebird weather and large expanses of open water for birds to rest on. The cost to the Service for this year's hunt was estimated at $3000.

The same basic hunting area was used this year, but Pools I and II were essentially dry. All portable hunter blinds were placed out, but used little by hunters so the muskrats had most blinds to themselves by the second weekend.

The refuge received 1940 wildlife observation visits this year.

2. Non-Wildlife Oriented

Nothing to report.

C. Enforcement

Forty-six violations were recorded during the hunting season this year. They were committed by 31 individuals, 9 of which were juveniles. Fifteen cases were successfully prosecuted and seven warnings were issued. Three juvenile cases are still pending state prosecution and one individual escaped prosecution through the use of a false ID. His shotgun is still located at

refuge headquarters.

On February 5th, after a massive snowstorm, two snowmobiles were observed patrolling the south boundary of the refuge. It wasn't long before they were chasing coyotes across the lake, and were seen killing at least two on the refuge. All roads were impassable and all one could do was watch. Maintenanceman Marko brought his two snowmobiles out from town and an attempt was made to track the perpetrators. There was such a time lag that they got all the way back to Great Falls and their tracks were obliterated by traffic. The case developed no further.

VI. OTHER ITEMS

A. Field Investigations

1. Nesting Studies

The current nest study objective is to quantify nest densities on various cover types. Sites are searched once during June using a cable-chain device. All hens flushed are counted as nests, but the nests are usually not verified. Wildlife other than waterfowl is also recorded. The results of this year's nest search are found in a separate report entitled "Calendar Year 1979 Nest Study Report". This year's data continue to support past findings that DNC attracts nesting ducks significantly more so than native grasslands, and it appears there would be little gained from further nest searching.

2. Native Grassland Evaluation Program

The major native grassland types are monitored annually with spring and summer Robel readings in seven permanent study plots and four fertilizer test plots. Late, wet spring weather prevented accurate readings from being made this spring, so only summer readings were obtained this year. A summary of this year's findings with photographs can be found in the "Grassland Evaluation Report for 1979".

3. Gizzard Collection for Lead Shot Study

During the hunting season of 1978, 516 gizzards were collected and turned over to Montana Fish and Game for analysis. The results received this year showed that none of the gizzards from Benton Lake had lead shot in them. Out of a total of 1623 duck gizzards from Montana, only 12 were found to contain one or more lead pellets. Of those twelve, seven had only one

shot each, four had 2 shots each and one contained 15 pellets.

B. Cooperative Programs

1. Special Tours

Three intra-agency tours were arranged to help acquaint personnel with agency programs. Ben Lukes and Bob Pearson conducted tours in Toole and Glacier Counties regarding the small wetlands program. The SCS, Extension Service, Resource Conservation Districts, BIA and Montana Fish and Game personnel participated. We in turn were shown waterbank and big game winter range projects. It was a good exchange and has helped local program relations.

The BIA representatives followed up with a tour discussion at Benton Lake Refuge to discuss habitat development plans on their Alkali Lake area.

2. Muddy Creek

The "Muddy Creek Special Water Quality Project" proposal was developed this year and is currently being reviewed by the Montana Congressional delegation for possible federal funding. This was a multi-agency effort of several years. This year a major effort was put forth to go beyond talking about the terrible problem - excessive irrigation waste water return flows into Muddy Creek causing excessive bank erosion and silt load discharge into the Sun and Missouri Rivers. We attended numerous meetings, provided data, wrote letters of support and sat in on draft review sessions. The major effect of this project should be down stream from our main water supply on Muddy Creek.

3. Radio System

The purchase of a radio system was not simple. Licensing, frequency assignment and system design had to go through certain channels. Bob Combstock of BLM helped with design. Frequency assignment was delayed several months awaiting clearance from Canadian authorities since our area of operations borders Canada. We were encouraged to go with GE equipment but decided to go with Motorola due to past personal experience. The purchase order was finally issued, but contained one correct and one incorrect frequency. We caught it and got Motorola focused on the right frequencies.

We then worked on obtaining a repeater transmission site. We compared several potential sites and decided on the "Knees", an elevated butte 20 miles east of Brady, Montana. Montana Power Company has a microwave station with a hundred foot tower on the site. A lease was negotiated for $600 per year, whereby our equipment would be installed in their building, our antenna mounted on their tower and power provided. We then had to obtain a right-of-way lease from the State Land Office as these lands were state lands. We also had to obtain release statements from two local ranchers as well as Montana Power Company to clear our application.

The BLHP project funds were insufficient to cover the complete purchase of the system. We were able to purchase the major components and obtained five mobile units from CMR. The system became operational in October. This system currently operates without the private line feature until the mobile units can be replaced with new units. The repeater is causing a lot of noise on the circuit which the "private line" feature will eliminate. There remains a few bugs in the system - remote desk sets with single frequency instead of two, and antenna installation was done wrong. Like almost nothing turned out right.

4. Saline Seep Issue

We began field documentation of wetland drainage and attended field tour programs to monitor the problem. I found and documented wetland Type III drainage which was advised by Dr. Brown and surveyed in by SCS personnel. Realty Specialist Ben Lukes also found SCS survey stakes on a wetland in Glacier County on a Hutterite Colony. Further field work was done and a report submitted to the Area Office.

5. Other

Other interactions of importance this year included behind the scene activities to amend Senate Bill 227, which threatened to axe the FWS acquisition program in the state. Amended legislation now requires review by the County Commissioners and they have the option to hold a public meeting on our acquisition projects.

Refuge revenue sharing checks were delivered personally to Toole, Teton, Glacier and Powell County Commissioners at their regular meetings. Realty Specialist Ben Lukes and Manager Pearson made a special effort to acquaint these commissioners with the small wetlands acquisition and management programs.

Record high water levels threatened a USAF missile site near Floweree, Montana. Our office was contacted regarding possible drainage of the wetland. A joint inspection of the site was undertaken and alternate solution recommended.

C. Items of Interest

1. Staff Happenings

Recurring back problems were hopefully cured this year for Maintenanceman Vince Marko. Vince incurred a muscle strain back injury while working in the refuge shop on February 15, 1979. Following various treatments and examinations the doctor concluded that an operation to remove a damaged disc was necessary. After much continued pain, and no sign of relief, Vince agreed to the operation in mid April. He was able to return to light duty in early June. Improvement continued slowly. He had a brief relapse in July after a hard day operating the grader placing rip rap on the 4/6 dike. Since that time his back has continued to improve and he has had very little problem with it.

Ben Lukes, Realty Specialist, received his certificate and pin for twenty years of service in August. Presentation was made by Assistant Area Manager Bob Ballou.

2. Training

Betty Benway, Administrative Clerk
April 9 - 11 - Administrative Workshop - Billings AO
May 22 - 24 - Office Management - Denver
November 28 - 30 - Administrative Workshop - Billings AO

Larry Veikley, Assistant Refuge Manager
April 21 - May 12 - Advanced Refuge Academy, Beckley, W. V.

Vince Marko, Maintenanceman
September 10 - 12 - Heavy equipment maintenance and operation (John Deere), Monte Vista NWR

3. Meetings

Veikley

January - Alternate crop workshop - Great Falls
February - Muddy Creek project field tour - Great Falls
Annual banquet - Toole County Conservation District - Shelby

Pearson

January - Montana Chapter of the Wildlife Society
February - Region 4, Montana Fish and Game, Great Falls
March - Project Leaders Workshop - Billings
Saline Seep Meeting - Conrad
April - Wilderness Club - Great Falls
County Rural Development Committee - Great Falls
May - Wage grade restructuring and BLHP review - Billings
July - Chouteau County field day tour - Fort Benton
Teton County all resources tour - Power
August - Draft Muddy Creek Project Report - Great Falls
September - Public meeting - CMR Master Plan - Great Falls
October - Muddy Creek Project review/CRD - Great Falls
December - Montana Outfitter & Guide Association - Annual meeting - Great Falls

4. Credits

Sections I, II, IIIC, IVB, C were written by Pearson and the remainder was written by Veikley. Typing and assembly were by Betty Benway. Content review and editing were shared by all.

D. Safety

Two formal safety meetings were conducted this year. There were no lost time accidents this year, but a summer student contracted infection in his hands as a result of botulism cleanup operations at Big Lake. This student was a different student from last year with a different set of hands, but he seemed to contract the same condition as last year's student. Infection apparently entered through a scratch on one hand and a horsefly bite on the other. The hands required medical treatment. Needless to say, various reports were filed for the student. It is not known what effect all of this had on the horsefly.

The refuge clerk found herself smack dab in the middle of a large snowdrift about one and a half miles from headquarters in January. She spent several hours at the site until she managed to catch a ride back to town and arrange for towing. The refuge entrance was blocked and high winds prevented it from being opened until later in the day. No one was injured, but the incident emphasized the need for winter emergency kits and better communication between staff members for planning travel in rough weather.

All fire extinguishers were serviced in April under GSA contract. Five new CO_2 extinguishers were received for placement in vehicles with catalytic converters and in residence kitchens. A new John Bean 200 gallon fire pumper was purchased with BLHP funds and proved itself useful during the cattail burn in Pool II. Two new underground fuel tanks with pumps were installed for elimination of overhead fuel storage.

BENTON LAKE

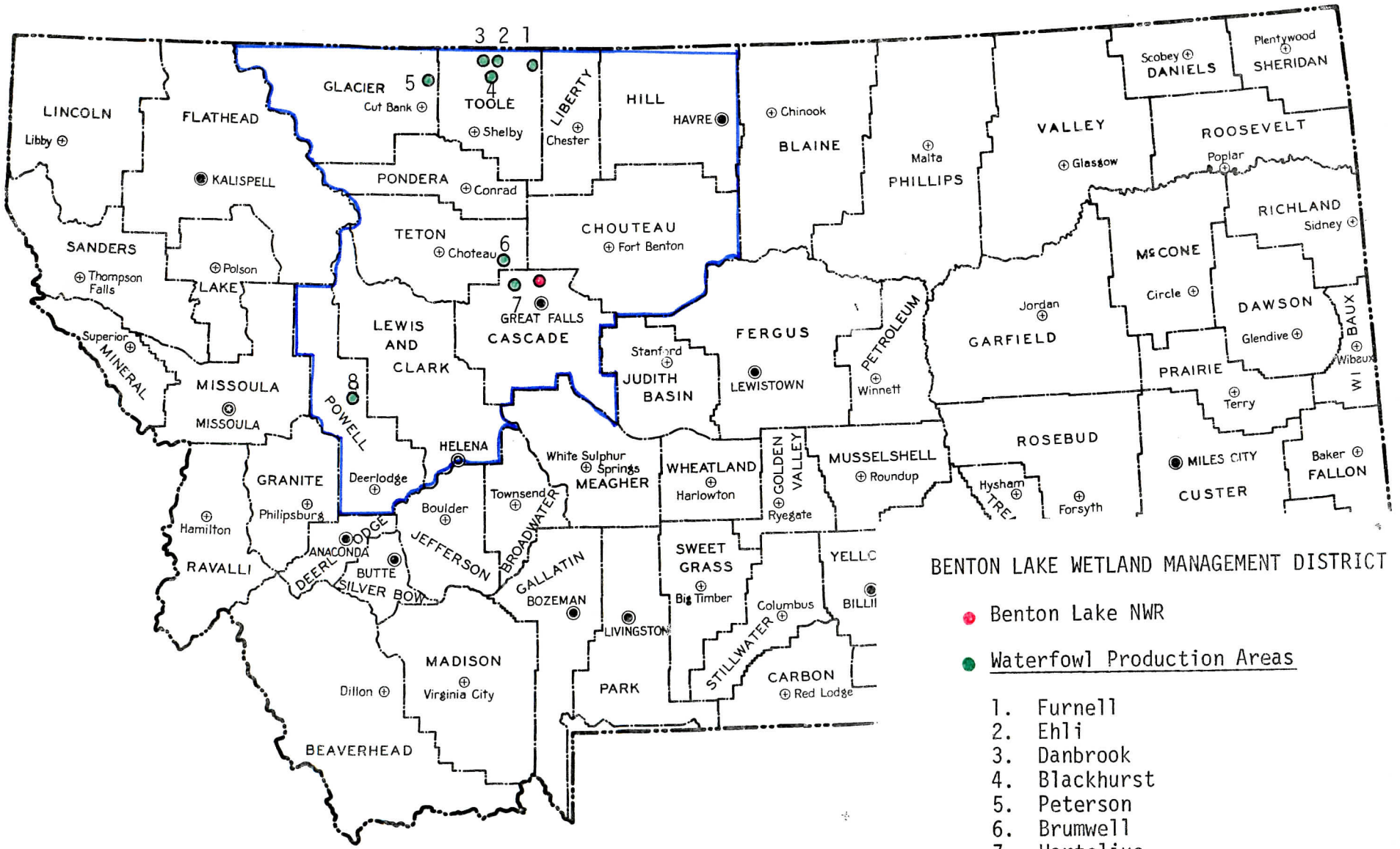
WETLAND MANAGEMENT DISTRICT

Personnel are listed in the previous report.

Review and Approvals

Submitted by	Date	Area Office	Date
Benton Lake National Wildlife Refuge		Regional Office	Date

MONTANA.



BENTON LAKE WETLAND MANAGEMENT DISTRICT

- Benton Lake NWR
- Waterfowl Production Areas

1. Furnell
2. Ehli
3. Danbrook
4. Blackhurst
5. Peterson
6. Brumwell
7. Hartelius
8. McCormick

TABLE OF CONTENTS

I. GENERAL

A. Introduction

The Benton Lake Wetland Management District was established in 1975. Initial delineation was conducted in 1974-75 by Rod King. Acquisition began in 1974 by Realty Specialist Benjamin Lukes. The district encompasses ten counties and currently has WPA's and easements in seven. WPA's are widely scattered and in most cases quite far from refuge headquarters. The two furthest away are roughly 120 miles from headquarters - each in opposite directions. These distances, coupled with the energy shortage, make management difficult, to say the least.

B. Climatic and Habitat Conditions

Heavy snowfall was prevalent over the district this winter and resulted in excellent habitat conditions in the spring. The summer progressed with little precipitation and several WPA's were dry by fall. For additional details on weather, see the 1979 refuge narrative report, as the weather was much the same throughout the district.

C. Land Acquisition

1. Fee Acquisition

One 310 acre tract was acquired this year in Cascade County. This is the first tract in the county and the closest WPA to the refuge. It was received in December. See Table I for a summary of WPA acquisitions to date.

TABLE I

FEE TITLE ACQUISITION BY COUNTY

	1976		1977		1978		1979		Totals	
County	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres
Cascade							1	310.0	1	310.0
Glacier			1	96.0					1	96.0
Powell	1	300.0							1	300.0
Teton	1	251.5							1	251.5
Toole	1	1675.0			5	1408.0			6	3083.0
Totals	3	2226.5	1	96.0	5	1408.0	1	310.0	10	4040.5
Total Wetland Acres		504.0		27.0		315.0		113.0		959.0

The acquisition program in Montana was threatened early this year when legislation spearheaded by Senator Ed Smith of Sheridan County was introduced to the 46th Legislature. This bill would have required the approval of county government before any wetland acquisition could be accomplished. Approval would have been on a tract by tract basis. The bill evidently stemmed from landowner complaints about a large proposed fee project in Sheridan County.

Thanks to the help of the Wildlife Federation and others, the bill was watered down considerably. It was passed in a form which requires the FWS to notify county governments of proposed fee projects and allow them time to make recommendations. The FWS does not have to follow their recommendations, however. Toole County is expected to be the most difficult county to work with since last year's public uproar. This year the Hartelius WPA was acquired in Cascade County with no opposition, but a meeting with the Commissioners did result in some disparaging publicity. A copy of Senate Bill 227 and the above mentioned newspaper article are appended.

2. Easements

Five of the ten counties have wetland easements. Fifteen tracts were acquired this year in Glacier and Toole Counties, raising the total wetland acres protected to 5142. Table II shows how easement acquisition has progressed here. Dates of acquisition were determined by using the date of issuance of the payment checks.

D. System Status

1. Objectives

Objectives are not yet formulated. As of October, PPBE output reports have been implemented, although there is little reliable information to report.

2. Funding

Table III shows the history of funding for the district. The commonly practiced theory of expansion without funding is in effect here. The five thousand dollards in the WMD budget this year was labled WPA "add on" to the refuge budget after an austerity "take off" of four thousand dollars! The refuge budget is continually stretched to cover new commitments in the WMD. The FY 79 BLHP funds were used to

TABLE II

EASEMENT ACQUISITION BY COUNTY

County	1975 No.	1975 Wet Acres	1976 No.	1976 Wet Acres	1977 No.	1977 Wet Acres	1978 No.	1978 Wet Acres	1979 No.	1979 Wet Acres	TOTALS No.	TOTALS Wet Acres
Glacier			21	881	13	435	4	252	5	248	43	1816
Liberty	7	393	2	35							9	428
Pondera	3	291	4	310							7	601
Teton			1	50							1	50
Toole	18	1405	8	372	3	159			10	311	39	2247
TOTALS	28	2089	36	1648	16	594	4	252	15	559	99	5142

Total Acres Under Easement

Glacier	20,982.22
Liberty	6,200.00
Pondera	8,335.00
Teton	800.00
Toole	29,585.48
Totals	65,902.70

TABLE III

BENTON LAKE WETLAND
MANAGEMENT DISTRICT FUNDING

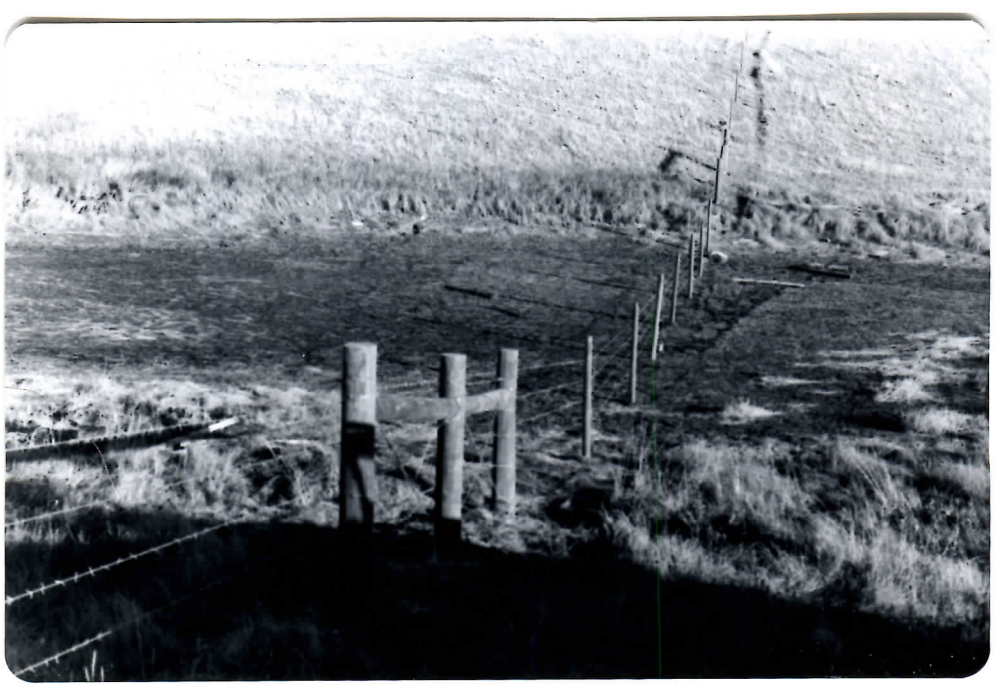
FY	1210	1240	BLHP	Rev. Rehab.
78				12,000
79	4,000		42,000	
80	5,000			

contract fencing on the Furnell and Ehli WPA's, for purchasing grass seed and seeding DNC on the Danbrook, Ehli and Furnell WPA's.

II. CONSTRUCTION AND MAINTENANCE

A. Construction

Refuge employees constructed 1.5 miles of wood post fence on the Furnell WPA this summer. Since 1978, six miles of wood



One mile of the Furnell WPA boundary was constructed by purchase order with all supplies furnished by the Government. Cost - $700. Wooden line posts were used.
79-9-10 (Labor) RLP

post fence has been built by force account at a cost of about $3000 per mile. BLHP funds were used to purchase materials and contract ten miles of steel post fence on the Furnell and Ehli WPA's. There were 5.5 miles constructed on Furnell WPA and 4.5 miles on Ehli WPA. Furnell WPA is completed, whereas there are about four miles left to build on the Ehli WPA when the construction work starts in the spring. The cost of the contract fence will run about $1800 per mile (not including administrative costs). Engineering costs have not yet been verified, but will apparently be about $1500. Both WPA's had existing fences which were removed by adjacent neighbors for salvage.

Furnell WPA north boundary fence looking east from county road. The 5.5 miles of fencing was removed under a special use permit for salvage rights.
79-6-1 RLP

Fence alignment and gate needs were negotiated with adjacent landowners. Alignment on the Furnell WPA was adjusted along the Morris (north) boundary to reduce snowdrift problems and some rough steep terrain. One gate was eliminated along the Lakey boundary. On the Fritz east-west boundary the fence was

moved south to include parts of several small wetlands which had been fenced around previously.

The Ehli WPA was surveyed and the existing east boundary fence was found to be 75 feet too far east. Negotiations with Mr. Joe Gottfried developed a slight realignment of the east-west fence to improve access and fence maintenance. He in turn was issued a trailing permit across the tract for moving livestock between pastures.

A request for the fence contract was sent from the refuge on May 25, 1979, and the actual construction did not start until September 27, after much urging from this end. Adjacent landowners were patient in most cases. Mixing of cattle was avoided. Some cattle trespass grazing occurred. It was necessary to rebuild one mile of fence under a purchase order so as to prevent serious problems. Permits for fence salvage were quickly modified to delay removal.

A small screw gate and pipe water control structure was purchased for installation in a diversion ditch west of the Furnell WPA. Installation will be done by the landowner and will activate a rundown diversion system which could fill some of the wetlands on the Furnell WPA in the spring.

Some additional improvement work was done under special use permit on the private access road through the Furnell WPA.

B. Maintenance

Interior fences were repaired and one cattleguard was dug out, cleaned out and reset to control cattle distribution in the Furnell WPA. A site cleanup project was completed by purchase order with a local rancher to clean up and bury a dump on the Ehli WPA.

Site cleanup on the Danbrook WPA was completed this fall in compliance with the sales agreement by the former owner. This included several old buildings and several acres of junk equipment, scrap and antique farm vehicles.

C. Wildfire

No known fires on fee lands, but our fencing crew helped control a 200 acre lightening caused grassland fire northwest of the Furnell WPA in August.

III. HABITAT MANAGEMENT

A. Cropland

BLHP funds were used to purchase 5250 pounds of tall and intermediate wheatgrass and 700 pounds of yellow sweet clover for DNC establishment over the next two years. This seed was purchased through the GSA contract. Six hundred pounds of a local variety of alfalfa was purchased on open market. Most of this seed will be used in the spring of 1980.

Furnell WPA - In about 1973 or 74 the previous owner broke up a hilltop pasture and planted barley. The field was productive but extremely rocky. After acquisition by FWS a cooperative farming agreement was issued to exchange crop harvest for rock picking. By 1977 this "field" was a bare rocky field and little progress had been made. The moist years of 1978 and 1979 provided good growth of forbs. SCS range specialist recommended burning and aerial seeding. In August we noted that several grasses were reestablishing themselves - timothy in moist sites, Junegrass, western wheatgrass and green needlegrass in drier sites. We decided to aerial overseed and put cattle on it to trample in the seed. Seeding was undertaken late this fall. The sandy 26 acre barley field was idle this year and was also aerially overseeded. The overseeding mixture was western wheatgrass, slender wheatgrass, green needlegrass, yellow sweet clover and Ladak alfalfa.

Brumwell WPA - This unit has been under a cooperative farming agreement since 1977, and all 56 acres of cropland will be planted to DNC and fertilized at no cost to the WMD in the spring of 1980.

McCormick WPA - No cropland present.

Peterson WPA - Currently there are about 50 acres of cropland which are being farmed by the previous owner under a land use reservation. An attempt will be made to hire this operator to till and seed this ground to DNC in 1980.

Ehli WPA (Tracts 39 and 40) - The previous owner is currently farming 101 acres on this unit, leaving one-third of the swathed crop in the field until ten days prior to waterfowl hunting season. The cooperator then harvests the remaining one-third. This agreement was initiated to combat adverse publicity due to alleged crop depredations by waterfowl on neighboring lands. The entire field will be planted to DNC in the spring of 1980. This cooperator planted a 23 acre field to DNC in June under a BLHP purchase order agreement.

Danbrook WPA (Tracts 39a & 41) - This unit contains 143 acres of cropland. Two fields in Tract 39a total 33 acres and will be cropped alternately on a one-third/two-thirds basis. The government's share will be left in swaths as a buffer against possible crop depredations in the area. Thirteen acres were planted to spring wheat this year.

There are two fields totaling 110 acres in Tract 41. Spring wheat was planted in a 55 acre field this year. The cooperator was to plant about 20 acres along the marsh to DNC this year, but dry weather delayed their planting. The 55 acre field will be planted to DNC in the spring of 1980 along with about 20 acres of the north field. The remaining 42 acres will be split and alternately cropped for depredation control. Several grassed waterways will also be established on this field. The refuge will provide DNC seed and pay for tillage and drilling. Farming will continue on this unit as long as there is a public demand for it. These croplands are quite steeply sloped and have saline seeps developing.

Hartelius WPA - This unit contains 200 acres of good cropland which will be planted to DNC in the spring of 1980 by refuge personnel.

Blackhurst WPA - This unit has 280 acres of cropland currently under a lease agreement which expires in 1981. Some depredation farming will be continued on this unit.

Blackhurst WPA located east of Sunburst, Montana. Some DNC will be planted in 1980.
79-4-22 05/28/79 RLP

Summary of DNC Development at Benton Lake Wetland Management District:

Total cropland acres in WMD	978
Acres planted to DNC - 1979	23
Acres planted to native grass - 1979	126
Acres planned for DNC planting - 1980	561
New acquisition planned for 1980 (includes cropland on 6 tracts)	911
Potential cropland acres by FY 81	1889

B. Grasslands

Grasslands on the Furnell WPA are finally under protection from trespass grazing since the construction of a new boundary fence. Mr. Aiken grazed 480 AUM's under his reserved right permit, and some cattle trespass occurred as a result of old fence being cleared and delays in the contract issued to build the new fence. This tract will be ready to implement a rotational grazing system with a bit more fence repair and construction. Grazing will terminate in November, 1983.

The main contract (BLHP) called for steel line posts and fully treated brace and corner posts. East boundary looking north into Canada. Fence is designed for antelope country.
79-8-8 RLP

Cattle trespass grazing occurred on the Ehli WPA as a result of a dilapidated south boundary fence. When the new fence is finished next spring, the problem should be eliminated. The range site condition on this unit is generally good.

There were no cattle problems on the McCormick WPA this year, but the poor section of boundary fence that contributes to this possibility has not yet been replaced.

C. Wetlands

Excellent water conditions prevailed throughout the WMD this spring except in western Teton County where wetlands were estimated at 50% capacity. Unfortunately, the summer was so dry that the Brumwell, Ehli and Hartelius WPA's dried up completely. As of December, there has not been enough moisture received to fill these wetlands in the spring.

D. Forest Land

Nothing to report.

E. Other Habitat

Not applicable.

F. Wilderness and Special Areas

Not applicable.

G. Easements for Waterfowl Management

An aerial easement surveillance was made in March to compensate for the weather cancelled surveillance flight last November. At the time of the spring flight, snow was mostly melted except for where it had drifted. Under these conditions ditches showed up well as strips of snow leading from wetlands. Water was backed up against these snow packed ditches and filled the wetlands. When a second flight was made in May, the amount of drainage was obvious on each tract.

Three tracts in Toole County (28X) (38X-1) (35X), were found to contain ditches draining wetlands under easement. Investigations proved that in each case the ditches were constructed in the mid 1960's prior to the easements, but had not been reported to realty upon acquisition. No prosecutable violation had occurred therefore, the ditches stay but cannot be maintained.

Aerial surveillance was again performed on October 30th. One easement in Toole County (20X) near an interstate highway construction project was found to have been used as a borrow area. An investigation is pending on this tract. In November two easements in Glacier County (22X-2) and (24X-1) were photographed on the ground to document wetlands used for dumping in the past. One of these will have to be rephotographed due to camera malfunction.

IV. WILDLIFE

The only wildlife census information available for the WMD consists of two breeding pair counts taken this spring. All necessary reports completed used scattered casual observations.

A. Endangered Species

Bald eagles and peregrine falcons were probably present in the WMD. One adult bald eagle was observed over the Furnell WPA this fall and one at the McCormick WPA on July 4th.

B. Migratory Birds

1. Waterfowl

Breeding populations were considered excellent this spring, although there is no prior data to compare it with. Aerial counts were taken on May 2 and May 28. No brood counts were taken this year but two canvasback broods and five broods of common goldeneye were observed at McCormick WPA on July 4th.

Table IV summarizes production this year.

TABLE IV

ESTIMATED PRODUCTION - WMD

	Ducks		Geese		
Tract	Pairs	Est. Prod.	Pairs	Singles	Broods of
McCormick	40	105	1	2	2
Brumwell	462	1485			
Peterson	56	180			
Furnell/Aiken	32	100	1		
Ehli/Collier	405	1330	1		
Danbrook	82	255	1		6
Blackhurst	78	260			
Totals	1155	3715	Est. goose prod. - 50		

A duck pair count from the county road at the Furnell WPA on May 8 recorded 67 pairs plus 21 grouped scaup. This would indicate that aerial pair counts may have underestimated breeding populations this year. Four Canada geese were seen - one on a nest.

Duck production on WPA's was estimated at 5.78 young per wetland acre using breeding pair counts only and an estimated 50% nest success. Brood sizes were taken from Hammond's "Waterfowl Brood Survey Manual", 1970.

Production on easements was estimated using a standard of 1.0 ducks produced per wetland acre based on the degree that wetlands were actually wet during the spring. There is no data basis for the "standard". This year most wetlands were at 100% of capacity, so with 5142 wetland acres an estimated 5,000 ducks were produced. Total duck production for the WMD is estimated at 8715. So much for paper ducks.

Canada goose production is adjusted up to 50 young due to brood sightings at Furnell by the fencing crew.

2. Marsh and Water Birds

There is no census information from which to report on this subject. Eared grebe and great blue heron were observed on Furnell WPA. Rednecked grebes nested in Brown's Lake adjacent to the McCormick WPA.

3. Shorebirds, Gulls and Terns

Long-billed curlews were seen on the Furnell WPA again this year, as well as several pair of common tern. Both are thought to have nested. Willet, marbled godwit and upland plovers were also observed there. Black terns were found nesting on the McCormick WPA.

4. Raptors

Ferruginous hawks and prairie falcons were observed on the Furnell WPA this summer. Marsh hawks are present throughout this district in summer and rough-legged hawks during the winter periods.

5. Other Migratory Birds

Four species observed on the McCormick WPA on July 4th are not on the refuge bird list: common redpoll, American redstart, yellow bellied sapsucker and the yellowthroat. The tree swallow also was nesting there.

C. Mammals, Non-Migratory Birds and Others

1. Game Mammals

Mule deer and pronghorns were seen on the Furnell WPA. Whitetail and mule deer use the McCormick WPA. One whitetail fa n was observed there at close range on July 4th.

2. Other Mammals

Columbian ground squirrels are common on the McCormick WPA. Beaver are also present on McCormick WPA in the Blackfoot River. A least weasel in white attire was run over on the Ehli WPA this fall.

3. Resident Birds

Hungarian partridge and sharptail grouse were prevalent on the Furnell WPA. Sharptail were seen on the Ehli WPA this fall with one flock of about 60 birds using the marsh vegetation for winter cover and roost sites.

4. Other Animal Life

A low oxygen problem developed in the pond on the Furnell WPA which had been stocked with trout in 1978. A die-off resulted when dissolved oxygen readings dipped to 1.4 PPM. Trout start dying when D. O. slides to 4 PPM. A nearby privately stocked pond was apparently unaffected by this type of problem and Fish and Game officials believe that the kill was not total in the Furnell pond. Restocking is planned for the spring of 1980.

V. INTERPRETATION AND RECREATION

A. Information and Interpretation

1. On Refuge

Nothing to report

2. Off Refuge

Nothing to report

B. Recreation

1. Wildlife Oriented

No information was collected to evaluate public use on the

WPA's. Some hunting undoubtedly occured for waterfowl and upland and big game. Evidence indicated that moderate fishing use occurred at Furnell WPA prior to the fish die-off. Some fur trapping probably occurred on the Furnell WPA and possibly the McCormick WPA.

2. Non-Wildlife Oriented

Nothing to report.

C. Enforcement

Nothing to report.

VI. OTHER ITEMS

A. Field Investigations

A biological reconnaissance was made of the McCormick WPA on July 4th. This unit is in mountainous terrain and is atypical to the rest of the district's prairie habitat.

B. Cooperative Programs

A 40 foot right-of-way was issued to Montana Power Company for a service line to the new gas well on the Furnell WPA. Total

Steel high pressure line from Well No. 24 being placed underground at 48" depth. These facilities were installed under a special use permit which calls for reseeding native grasses and clover on the disturbed right-of-way. 79-6-3 RLP

acreage in the right-of-way is about two acres. The path of the service line was adjusted somewhat to avoid its crossing a small wetland on the WPA. The pipe was laid and the surface restored to original ~~condition~~ contour. It will be seeded to a mixture of natives grasses in May, 1980.

Gas well No. 24 on the Furnell WPA was connected into collection lines and a valve house was installed by Montana Power.
79-8-9 RLP

Montana Department of Fish, Wildlife and Parks is scheduled to restock the Furnell pond with four inch fingerling rainbow trout in the spring of 1980. They attribute the summer die-off to hot weather and assume that the pond will ordinarily hold a fair fishery.

C. Items of Interest

1. Toole County Crop Depredation Complaint

Only one complaint on crop damage by ducks was logged this year. The complainant was Mr. Pete Lerum of rural Sweetgrass. Investigation showed that this problem stemmed from a late seeding of spring wheat which was in turn late ripening.

He swathed the field which generally had a poor crop stand, and did not attempt to combine it. Ducks from nearby wetlands (early migrants) found the wheat and had a feast. This station provided two Zon guns and sympathetic ears, but the problem was obviously brought on by poor farming techniques. The owner was conscientiously seeking some type of payment for his losses. It is believed that his endeavor failed. At the time he was having duck problems all other crops in the area had already been completely harvested.

2. Credits

Report written by Veikley, edited by Pearson, typed and assembled by Benway.

D. Safety

There were no accidents associated with wetland management district operations. Safety meetings, etc. are covered under Benton Lake Refuge.

Wetlands plan contains 'ducky deal' for farmer

An agency plan to purchase 310 acres 12 miles north of Great Falls for a production area for ducks and geese looks to Cascade County commissioners like a ducky deal for the "lucky" farmer who has marshland to sell.

Ben Lukes of the U.S. Fish and Wildlife Service reviewed the wetlands plan for the commissioners Tuesday. He said their concurrence with the plan isn't mandatory although his agency is required to inform them of it.

Lukes said the agency is buying the land from Chester Hartelius at an in-house appraisal price. Since the property will be taken off county tax rolls, the agency will pay the county its usual ¾ of 1 percent of appraisal price in lieu of taxes. This, he said, would amount to more than the taxes currently paid on the land.

Lukes initially declined to reveal the purchase price of the land, saying that wetlands purchases are made with duck stamp revenues rather than tax monies. Pressed by Commissioner L.W. Fasbender, Lukes said the appraised price of the property was $490 an acre.

Fasbender termed the price "outlandish" and quipped he wished he had some marshland to sell.

Bill Murray, commissioners' administrative assistant, pointed out that based on the appraised price the in-lieu-of-tax payment would be about $1,189. Fasbender said the county already receives $143,000 in such payments.

Lukes said he estimated the present taxes on the bare acreage is about $450.

Fasbender noted that in addition to serving as a breeding ground for ducks and geese, wetlands are prime breeding areas for mosquitoes, which then become the county's problem.

Lukes said the agency tries to take care of mosquitoes and noxious weed problems in its own areas, but he couldn't guarantee that the agency would take care of them on this piece of property. He said the agency contracts out pest control in some counties.

Only part of the 310 acres will be wetland, he explained. The rest is to be planted as a nesting area.

In addition to areas purchased for wetlands management, the Fish and Wildlife Service contracts with landowners not to drain potholes which serve as duck breeding grounds.

Senate BILL NO. 227

INTRODUCED BY E. Smith Kolstad [illegible signatures] Stephens

A BILL FOR AN ACT ENTITLED: "AN ACT TO REQUIRE APPROVAL OF THE APPROPRIATE COUNTY GOVERNING BODY BEFORE FINAL APPROVAL OF FEDERAL LAND, WETLAND, OR WATER ACQUISITIONS FOR FISH AND GAME PURPOSES."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF MONTANA:

Section 1. Federal waterfowl and wildlife area acquisitions -- submission to affected county governing bodies for approval. (1) The governor, the department, or their agents, responsible under federal law for final approval of land, wetland, and water acquisitions by the United States government or its agents for waterfowl protection areas, wildlife refuges, or other wildlife or waterfowl purposes under Title 87, chapter 1, part 7, shall submit the proposed acquisitions to the governing body of each county in which all or part of the land, wetland, and water areas are proposed to be located for the governing body's recommendations.

(2) An affirmative recommendation by the governing body must be obtained prior to final approval of all such proposed acquisitions, whether by transfer of title, lease, easement, or agreement.

Section 2. Hearings on proposed waterfowl and wildlife area acquisitions. (1) The governing body of the county affected by a proposed federal acquisition of land under [section 1] shall, within 21 days of receipt of an acquisition proposal, physically inspect the proposed acquisition areas.

(2) The governing body shall hold a public hearing on the proposed acquisition and shall give public notice of the date, time, and place of the hearing. The notice shall be published once a week for 2 successive weeks in a newspaper of general circulation in each county in which all or part of the proposed acquisition is located. The notice shall include the substance of the proposed action and a legal description of the proposed acquisitions.

(3) The governing body shall make and forward to the department its recommendations for approval or disapproval of the proposed federal acquisition within 60 days of receipt of an acquisition proposal.

Section 3. Codification. This act is intended to be codified as an integral part of Title 87, chapter 1, part 7, and the provisions contained in Title 87, chapter 1, part 7, apply to this act.

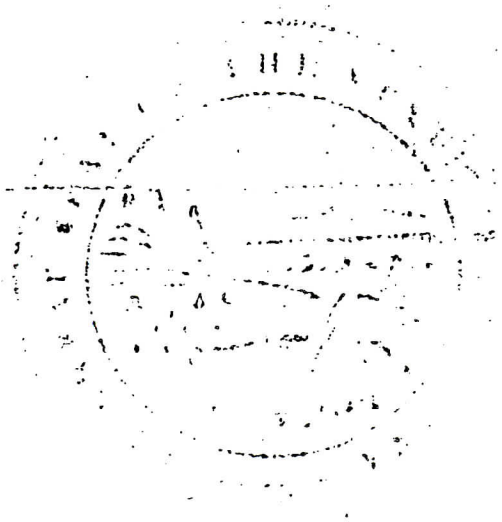
-End-

SB 227

INTRODUCED BILL

UNITED STATES OF AMERICA,)
State of Montana) ss.

I, FRANK MURRAY, Secretary of State of the State of Montana, do hereby certify that the following is a true and correct copy of SENATE Bill No. 227, Chapter No. 309, Montana Session Laws of 1979, enacted by the Forty-sixth Legislature of the State of Montana, approved by Thomas L. Judge, Governor of said State, on the 26th day of March, 1979, and effective Immediately.



IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the great Seal of said State.

Done at the City of Helena, the Capital of said State, this 5th day of April, 1979.

Frank Murray

Frank Murray
Secretary of State

. . . . . .

CHAPTER NO. 309
MONTANA SESSION LAWS 1979
SENATE BILL NO. 227

AN ACT TO REQUIRE A PUBLIC HEARING ON FEDERAL LAND, WETLAND, OR WATER ACQUISITIONS IN FEE FOR FISH AND GAME PURPOSES; AND PROVIDING AN EFFECTIVE DATE.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF MONTANA:

Section 1. Federal waterfowl and wildlife area acquisitions -- submission to affected county governing bodies for review. The governor, the department, or their agents, responsible under federal law for final approval of land, wetland, and water acquisitions in fee by the United States government or its agents for waterfowl protection areas or wildlife refuges, or the United States fish and wildlife service shall submit the proposed acquisitions to the governing body of each county in which all or part of the land, wetland, and water areas are proposed to be located for the governing body's recommendations.

Section 2. Hearings on proposed waterfowl and wildlife area

acquisitions. (1) The governing body of the county affected by a proposed federal acquisition of land under [section 1], the department, and the United States fish and wildlife service shall, within 21 days of receipt of an acquisition proposal, physically inspect the proposed acquisition areas, if the governing body deems such inspection appropriate.

(2) If requested by the governing body, the agencies described in subsection (1) shall hold a joint public hearing on the proposed acquisition and shall give public notice of the date, time, and place of the hearing. The hearing shall be held in the county in which the proposed acquisition is located. The hearing shall be held within 30 days of the governing body's receipt of the acquisition proposal. The notice shall be published once a week for 2 successive weeks in a newspaper of general circulation in each county in which all or part of the proposed acquisition is located. The notice shall include the substance of the proposed action and a legal description of the proposed acquisitions.

Section 3. Codification. This act is intended to be codified as an integral part of Title 87, chapter 1, part 7, and the provisions contained in Title 87, chapter 1, part 7, apply to this act.

Section 4. Effective date. This act is effective on passage and approval.